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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
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1774

10

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,346

Applicant(s)

SHIMIZU ET AL.

Examiner

Camie S Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 9, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other:

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DETAILED ACTION

1. Applicant's election of Group I, claims 1-9 and 11-15 drawn to a flame retarding polypropylene fiber and film is acknowledged.
2. Examiner acknowledges cancelled claim 10.

Claim Objections

3. Claims 3-4, 13 and 15 are objected to because of the following informalities: The claims contain a Japanese standard method. Applicant is required to provide an English translation of the Japanese standard method. Appropriate correction is required.
4. Claim 14 objected to because of the following informalities: The phrase "is consisted of" should be "consists of". Appropriate correction is required.
5. Claims 4-9 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 3-8, 11-13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Haley et al., U.S. 5,393,812.

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Haley discloses a flame retardant, light stable composition prepared from a polyolefin fiber or film, preferably polypropylene as per instant claims 1 and 11 (see abstract, column 1, lines 5-9 and column 15, lines 34-39). Also, the reference discloses a halogenated hydrocarbyl phosphate ester flame retardant is present in the amount of 0.5 percent and 0.01 to 3 percent of a functional hindered amine as per instant claims 1 and 11 (see column 12, lines 13-34). The reference also discloses that the hydrocarbyl phosphate can include an aromatic phosphate as per instant claims 5 and 12 (see column 6, lines 53-68). Haley discloses that the hindered amines are the alkoxyamine functional hindered amines light stabilizers known as NOR (see column 1, line 59-column 2, line 64). Additionally, the reference discloses that the R group in the NOR type hindered amine-based stabilizer can be a cycloalkyl as shown in column 3, line 55 as per instant claims 6 and 12. Column 12, lines 35-44 of the reference discloses that the UV light absorber can be present in the amount of 0.01 to 3 percent as per instant claim 7. It is also disclosed in the reference in column 4, lines 36-42 that the fiber can be a multifilament yarn as per instant claim 8. Claims 3-8, 13 and 15 are product by process claims. Even though product by process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art was made by a different process. See MPEP 2113.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-2, 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haley et al., U.S. Patent Number 5,393,812.

Haley discloses a flame retardant, light stable composition prepared from a polyolefin fiber, preferably polypropylene as per instant claim 1 (see abstract and column 1, lines 5-9). Also, the reference discloses a halogenated hydrocarbyl phosphate ester flame retardant is present in the amount of 0.5 percent and 0.01 to 3 percent of a functional hindered amine as per instant claim 1 (see column 12, lines 13-34). The strength of the fiber affects the flame retardancy of the fiber. Additionally, the strength of the fiber is an optimizable feature. Discovery of optimum value of a result effective variable involves only routine skill in the art in re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA). Therefore, it would have been obvious to one of ordinary skill in the art to have the strength of the polypropylene fiber of 4.0 cN/dtex or more in order to provide a flame retardant fiber that has a greater resistance to burning as per instant claim 2. The reference discloses in column 6, lines 17-29 that the polypropylene fiber can be bicomponent [core/sheath structure] and multiconstituent [multiple layers]. Haley also discloses that those of ordinary skill in the art can readily determine the proportions of the polymer fibers/films. The composition of the reference discloses at least one polyolefin, at least one flame retardant and at least one UV light stabilizer. Therefore, it would have been obvious to one of ordinary skill in

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the art to have a core/sheath construction where the core comprises a polypropylene resin containing the phosphoric ester based flame retardant and the NOR type hindered amine based stabilizer and a sheath component comprises a polypropylene resin containing 0.3% by weight or less of the hindered amine-based stabilizer, and the total fiber contains 0.5% by weight or more of the phosphoric ester-based flame retardant and 0.4 by weight or more of the NOR type hindered amine-based stabilizer in order to obtain good flame retardancy and good resistance to UV degradation as per instant claims 9 and 14 (see column 6, lines 17-20 and column 24, lines 23-29).

10. Claims 11, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haley et al., U.S. Patent Number 5,393,812 in view of Kuga et al., U.S. Patent Number 4,683,171.

Haley discloses a flame retardant, light stable composition prepared from a polyolefin fiber or film, preferably polypropylene as per instant claim 11 (see abstract, column 1, lines 5-9 and column 15, lines 34-39). Also, the reference discloses a halogenated hydrocarbyl phosphate ester flame retardant is present in the amount of 0.5 percent and 0.01 to 3 percent of a functional hindered amine as per instant claim 11 (see column 12, lines 13-34). The Haley reference does not disclose the thickness of the film. Kuga teaches a polypropylene film comprising a flame retardant, an ultraviolet absorber and a hindered amine type compound (see column 14, lines 27-40 and column 16, lines 46-48). The Kuga reference also discloses the thickness of the film as 1 mm in column 17, line 14. The thickness of the film affects the breaking and tensile strength. Therefore, it would have been obvious to one of ordinary skill in the art to have the thickness of the film be 300 microns or less in order to achieve greater resiliency and strength as per instant claims 13 and 15. . The composition of the reference discloses at least one polyolefin, at least

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one flame retardant and at least one UV light stabilizer. Therefore, it would have been obvious to one of ordinary skill in the art to have a core/sheath construction where the core comprises a polypropylene resin containing the phosphoric ester based flame retardant and the NOR type hindered amine based stabilizer and a sheath component comprises a polypropylene resin containing 0.3% by weight or less of the hindered amine-based stabilizer, and the total fiber contains 0.5% by weight or more of the phosphoric ester-based flame retardant and 0.4 by weight or more of the NOR type hindered amine-based stabilizer in order to obtain good flame retardancy and good resistance to UV degradation as per instant claim 14 (see column 6, lines 17-20 and column 24, lines 23-29).

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (703) 305-4488. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly, can be reached at (703) 308-0449. The fax phone numbers for the Group are (703) 872-9310 {before finals} and (703) 872-9311 {after finals}.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Cynthia Kelly